UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,213	12/05/2003	Jitendra Modi	58653/01022	2474

31013 7590 10/22/2007

KRAMER LEVIN NAFTALIS & FRANKEL LLP
INTELLECTUAL PROPERTY DEPARTMENT
1177 AVENUE OF THE AMERICAS
NEW YORK, NY 10036

EXAMINER	
RONESI, VICKEY M	
ART UNIT	**PAPER NUMBER**
1796	

NOTIFICATION DATE	DELIVERY MODE
10/22/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

klpatent@kramerlevin.com

Office Action Summary	Application No.	Applicant(s)	
	10/730,213	MODI ET AL.	
	Examiner	Art Unit	
	Vickey Ronesi	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-33 and 35-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *35-38* is/are allowed.

6)☒ Claim(s) *1 and 3-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Please note that the examiner of record has been changed. The new examiner is Vickey Ronesi.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

3. The new grounds of rejection set forth below are necessitated by applicant's amendment filed on 7/31/2007. In particular, the viscosity range was narrowed in claims 1 and 33. Thus, the following action is properly made final.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1 and 3-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With respect to claims 1 and 33, the viscosity values of 122-180 cps at temperatures of 100-110°C fail to satisfy the written description requirement of 35 USC 112, first paragraph since there does not appear to be a written description requirement of the ranges in the

application as originally filed, *In re Wright*, 866 F.2d 422, 9 USPQ2d 1649 (Fed. Cir. 1989) and MPEP 2163. While there is support for a single composition having the presently claimed viscosity values at the presently claimed temperatures, there is no support for those values for any composition that falls within the scope of the claims. In other words, support is not had for all compositions comprising a solid linear alcohol at room temperature, a thermoplastic binder, and wax having the presently claimed viscosity values and temperatures.

Furthermore, the endpoints for the amended viscosity and temperature ranges of "about" 122 cps and "about" 180 cps and "about" 100°C and "about" 110°C fail to satisfy the written description requirement of 35 USC 112, first paragraph since there does not appear to be a written description requirement of the approximate term "about" regarding these viscosities in the application as originally filed, *In re Wright*, 866 F.2d 422, 9 USPQ2d 1649 (Fed. Cir. 1989) and MPEP 2163. Applicant has not pointed to any portion of the specification, and examiner has not found any support for "about" in the specification as originally filed. While there is support for endpoints with specific values, support is not found for the term "about" with respect to those endpoints.

With respect to claims 3-32, they are rejected for being dependent on a rejected claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 6-9, 12, 17, 20, 23, 31, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suematsu et al (US 5,597,641).

Suematsu et al. disclose solvent-free coating composition, i.e. hot meltable ink, that possesses viscosity of 20-200 cP at 90 ^{0}C and melting point of 60-85 ^{0}C wherein the coating comprises pigment, wax that includes combinations of beeswax, i.e. animal wax, polyethylene wax, and stearyl alcohol i.e. solid linear alcohol, and heat-meltable resin, i.e. binder, such as ethylene-vinyl acetate or ethylene-(meth)acrylic acid (col.6, lines 24-28, 31, 35-36, 39-40, 43-44, 46-47, and 66-67 and col.7, lines 40-42 and 52-53).

Suematsu et al fails to explicitly disclose the viscosity of the coating composition when heated to a temperature between 100°C and 110°C.

Even so, Suematsu et al discloses a viscosity of 20-200 cP at 90 ^{0}C and teaches that the viscosity is critical to ensure that a predetermined amount of ink is entered into the micropores (col. 7, lines 41-51).

Given that the viscosity taught by Suematsu et al is measured at a temperature relatively close to the presently claimed temperature and overlaps with the presently claimed values and further given that the viscosity used is critical in applying the ink, it would have been obvious to one of ordinary skill in the art to prepare a coating composition with a suitable viscosity, including those presently claimed.

With respect to claim 32, while there is no disclosure that the hot melt ink is a flexographic printing coating composition, applicants attention is drawn to MPEP 2111.02 which states that "if the body of a claim fully and intrinsically sets forth all the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of

the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction". Further, MPEP 2111.02 states that statements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the purpose or intended use results in a structural difference between the claimed invention and the prior art. Only if such structural difference exists, does the recitation serve to limit the claim. If the prior art structure is capable of performing the intended use, then it meets the claim.

It is the examiner's position that the preamble does not state any distinct definition of any of the claimed invention's limitations and further that the purpose or intended use, i.e. flexographic printing coating composition, recited in the present claims does not result in a structural difference between the presently claimed invention and the prior art composition and further that the prior art composition which is identical to that set forth in the present claims is capable of performing the recited purpose or intended use.

6. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suematsu et al. (U.S. 5,597,641) in view of Ouchi et al. (U.S. 6,106,602).

The discussion with respect to Suematsu et al. in paragraph 5 above is incorporated here by reference.

The difference between Suematsu et al. and the present claimed invention is the requirement in the claims of specific solid linear alcohol.

Ouchi et al., which is drawn to hot melt ink, disclose the use of alcoholic wax possessing hydroxyl number of 20-150, viscosity of 5-30 mPas at 100-150 ^{0}C, molecular weight of 200-.

1500, and melting point of 50-120 ^{0}C in order to produce ink with good stability (col.2, lines 3-19 and 53-56 and col.3, line 59-col.4, line 31).

In light of the motivation for using solid linear alcohol disclosed by Ouchi et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such solid linear alcohol in the ink of Suematsu et al. in order to produce ink with high optical transmission, hue, and chroma as well as good storage stability.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suematsu et al. (U.S. 5,597,641) in view of Elwakil (U.S. 5,574,078) and Herten et al. (U.S. 4,853,427).

The discussion with respect to Suematsu et al. in paragraph 5 above is incorporated here by reference.

The difference between Suematsu et al. and the present claimed invention is the requirement in the claims of specific type of ethylene-acrylic acid copolymer.

Elwakil, which is drawn to hot melt ink, disclose the use of ethylene-acrylic acid copolymer known under the tradename AC 580 in order to enhance gloss (col.14, lines 54-63). It is well known, as found in Herten et al., that AC 580 is ethylene-acrylic acid copolymer that possesses acid number of 80 and viscosity of 650 cP at 140 C (col.7, lines 11-17).

In light of the motivation for using ethylene-acrylic acid copolymer disclosed by Elwakil as described above, it therefore would have been obvious to one of ordinary skill in the art to use such copolymer in the ink of Suematsu et al. in order to produce ink with enhanced gloss.

8. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suematsu et al. (U.S. 5,597,641) in view of Kruse (U.S. 5,112,398).

The discussion with respect to Suematsu et al. in paragraph 5 above is incorporated here by reference.

The difference between Suematsu et al. and the present claimed invention is the requirement in the claims of specific type of ethylene-vinyl acetate copolymer comprising 40% vinyl acetate.

Kruse, which is drawn to ink composition, disclose the use of ethylene-vinyl acetate comprising 40% vinyl acetate given that such copolymer adheres well to substrate (col.4, lines 48-52 and 63-66). Given that Kruse discloses ethylene-vinyl acetate comprising same amounts of ethylene and vinyl acetate as presently claimed, it is clear that such copolymer would also intrinsically possess melt index as presently claimed.

In light of the motivation for using specific type of ethylene-vinyl acetate disclosed by Kruse as described above, it therefore would have been obvious to one of ordinary skill in the art to use such ethylene-vinyl acetate in the ink of Suematsu et al. in order to produce ink that adheres well to substrate.

9. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suematsu et al. (U.S. 5,597,641) in view of Oliver et al. (U.S. 5,593,486).

The discussion with respect to Suematsu et al. in paragraph 5 above is incorporated here by reference.

The difference between Suematsu et al. and the present claimed invention is the requirement in the claims of highly branched hydrocarbon wax.

Oliver et al., which is drawn to hot melt ink, disclose the use of highly branched hydrocarbon wax possessing number average molecular weight of 520 in order to produce ink with high optical transmission, hue, and chroma as well as to produce ink able to survive severe storage conditions without melting or offset (col.8, lines 25-27, col.8, line 67-col.9, line 2, and col.10, lines 43-47). Although there is no explicit disclosure regarding the softening point or viscosity of the highly branched hydrocarbon wax, given that Oliver et al. disclose the use of wax known under the tradename Vybar 253 which is identical to the highly branched hydrocarbon wax used in the present invention, it is clear that such wax would intrinsically possess softening point and viscosity as presently claimed.

In light of the motivation for using highly branched hydrocarbon wax disclosed by Oliver et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such wax in the ink of Suematsu et al. in order to produce ink with high optical transmission, hue, and chroma as well as good storage stability.

10. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suematsu et al. (U.S. 5,597,641) in view of Oliver et al. (U.S. 5,593,486) and *Ethylene Homopolymers- Polywax.*

The discussion with respect to Suematsu et al. in paragraph 5 above is incorporated here by reference.

The difference between Suematsu et al. and the present claimed invention is the requirement in the claims of specific type of polyethylene wax.

Oliver et al., which is drawn to hot melt ink, disclose the use of polyethylene wax possessing number average molecular weight of 1000 in order to produce ink with high optical transmission, hue, and chroma as well as to produce ink able survive severe storage conditions without melting or offset (col.8, lines 25-27, col.9, lines 34-48, and col.10, lines 43-47). Although there is no explicit disclosure regarding the molecular weight distribution or melting point of the wax, Oliver et al. disclose the use of wax known under the tradename Polywax, which is well known, as found in *Ethylene Homopolymers- Polywax* (retrieved from the Internet: <URL: www.bakerhughes.com/bakerpetrolite /polymers/ethylene_homopolymers>), as possessing a molecular weight distribution of approximately 1.1 and melting point of 80-132 ^{0}C.

In light of the motivation for using specific polyethylene wax disclosed by Oliver et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such wax in the ink of Suematsu et al. in order to produce ink with high optical transmission, hue, and chroma as well as good storage stability.

11. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suematsu et al. (U.S. 5,597,641) in view of Sawada (U.S. 5,560,765).

The discussion with respect to Suematsu et al. in paragraph 5 above is incorporated here by reference.

The difference between Suematsu et al. and the present claimed invention is the requirement in the claims of specific type of specific type of wax.

Sawada, which is drawn to hot melt ink, disclose the use of spermaceti wax in order to control the thermal characteristics and viscosity of the ink (col.2, lines 38-42 and col.3, line 30).

In light of the motivation for using spermaceti wax disclosed by Sawada as described above, it therefore would have been obvious to one of ordinary skill in the art to use such wax in Suematsu et al. in order to control the thermal characteristics and viscosity of the ink.

12. Claims 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suematsu et al. (U.S. 5,597,641) in view of Jaeger et al. (U.S. 4,889,560).

The discussion with respect to Suematsu et al. in paragraph 5 above is incorporated here by reference.

The difference between Suematsu et al. and the present claimed invention is the requirement in the claims of plasticizer.

Jaeger et al., which is drawn to hot melt ink, disclose the use of up to 25% plasticizer such as dicyclohexyl phthalate plasticizer in order to increase the flexibility of the ink (col.4, lines 10-14, 21, and 44-45).

In light of the motivation for using dicyclohexyl phthalate plasticizer disclosed by Jaeger et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use dicyclohexyl phthalate in Suematsu et al. in order to produce ink with increased flexibility.

13. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suematsu et al. (U.S. 5,597,641) in view of Sandvick et al. (U.S. 5,700,516).

The discussion with respect to Suematsu et al. in paragraph 5 above is incorporated here by reference.

The difference between Suematsu et al. and the present claimed invention is the requirement in the claims of specific type of ethylene –acrylic acid copolymer.

Sandvick et al., which is drawn to hot melt composition, disclose the use of ethylene-acrylic acid copolymer possessing acid number of 120 and viscosity at 140 ^{0}C of 650 cPs in order to provide flexibility to the composition (col.7, lines 4-6, col.8, lines 62-66, and col.21, lines 20-30).

In light of the motivation for using specific type of ethylene-acrylic acid copolymer disclosed by Sandvick et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such ethylene-acrylic acid copolymer in Suematsu et al. in order to produce ink with good flexibility.

Allowable Subject Matter

14. Claims 35-38 are allowed.

See the discussion in paragraph 18 of the Office action mailed on 2/8/2007 for reasons for allowance.

Response to Arguments

15. Applicant's arguments filed 7/31/2007 have been fully considered but they are not persuasive. Specifically, applicant argues (A) that Suematsu et al does not anticipate the presently cited claims given that it does not explicitly disclose a coating viscosity of 122-180 cps

at a temperature between 100-110°C and (B) that Ouchi et al., Elwakil, Herten et al., Kruse, Oliver et al., Sawada, and Jaeger et al. are not relevant references against the present claims given that there is no disclosure in any of the references of viscosity as presently claimed.

With respect to argument (A), the examiner agrees that Suematsu et al does not anticipate the presently claimed viscosity. This is why new grounds of rejection under 35 USC 103(a) were necessitated and set forth above.

With respect to argument (B), it is noted that Ouchi et al., Elwakil, Herten et al., Kruse, Oliver et al., Sawada, and Jaeger et al. are not used for their teaching of viscosity. This limitation is already taught by either Brown et al. or Suematsu et al. as described above. Further, it is noted that each of Ouchi et al., Elwakil, Herten et al., Kruse, Oliver et al., Sawada, and Jaeger et al. are used as teaching references, and therefore, it is not necessary for these secondary references to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather these reference teach a certain concept, namely, the use of specific solid linear alcohol (Ouchi et al.), specific ethylene-acrylic acid copolymer (Elwakil and Herten et al.), ethylene-vinyl acetate copolymer (Kruse), highly branched hydrocarbon wax (Oliver et al.), specific type of wax (Sawada), and specific type of plasticizer (Jaeger et al.) utilized in hot melt ink, and in combination with the primary reference, disclose the presently claimed invention.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vickey Ronesi whose telephone number is (571) 272-2701. The examiner can normally be reached on Monday - Friday, 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

10/13/2007
Vickey Ronesi

/Vasu Jagannathan/
Supervisory Patent Examiner
Technology Center 1700